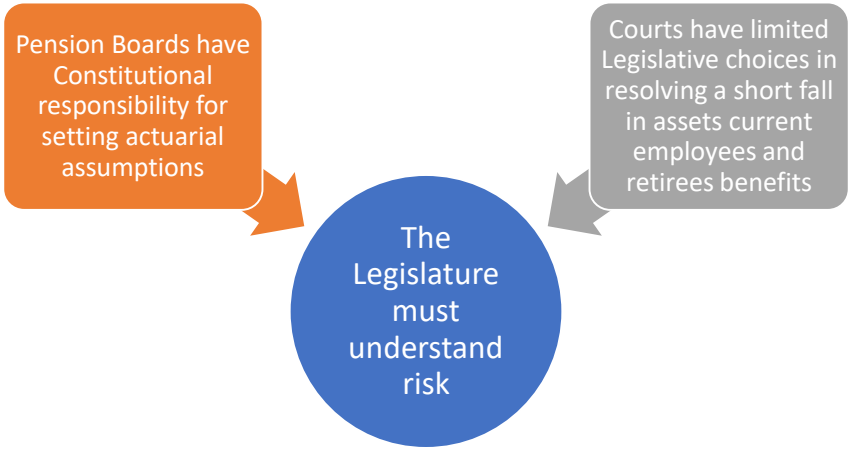
Financial Risk Assessment

Montana Pension Systems

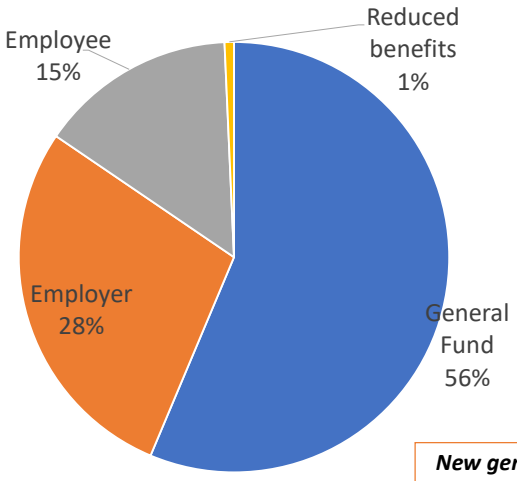
Legislative Fiscal Division
November 2018

Legislature does not control previous benefits, but must find funding if short



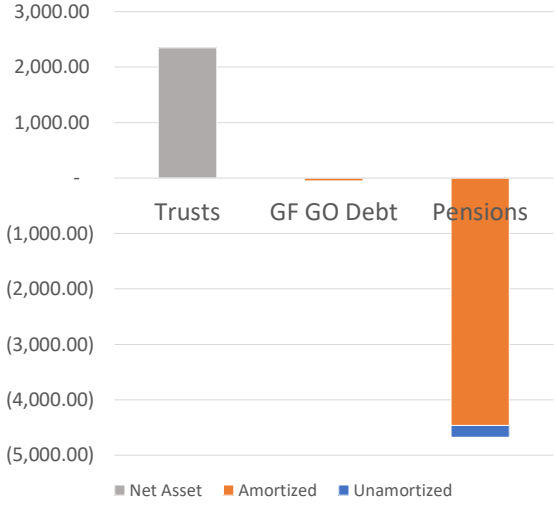
Previous PERS/TRS Pension Solutions: $140 million per year

- Direct additional general fund pension contributions $80 million per year or over 3% of annual general fund spending
- Employer contributions 1-2% increases will cap out at $40 million per year (~$4 million from GF)
- Employee 1% contributions cap out at $21 million per year
- Reduced benefits for future employees impact small so far



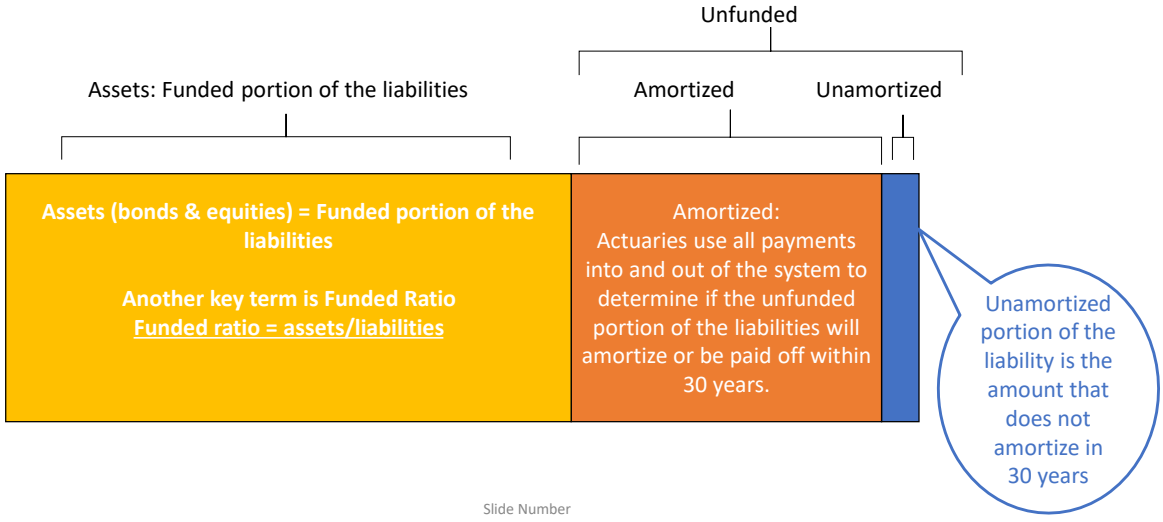
New general fund spending ~3.5% of all GF

Order of Magnitude Comparisons



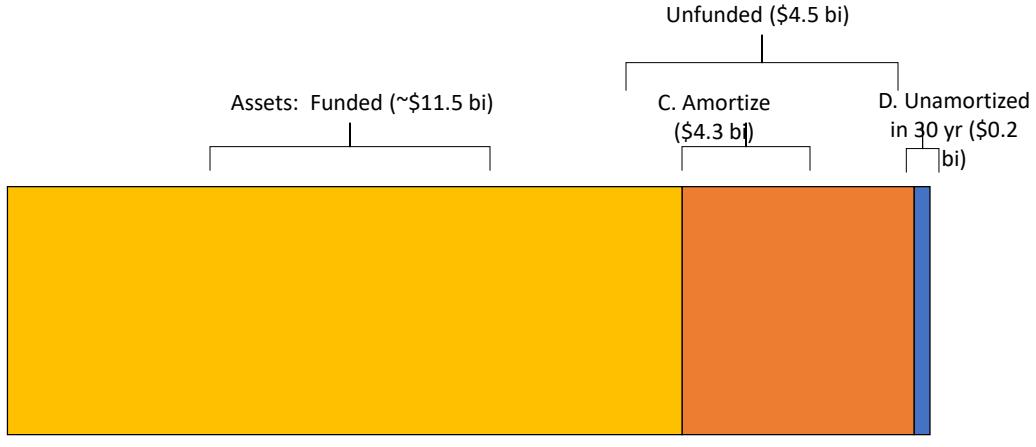
- GO Debt is relatively small
- Pension liabilities are larger
- State efforts to in recent years amortize (pay off) most of the liability within 30 years
- Pension unfunded liabilities are double the size of current state trust funds including:
  - School trusts,
  - Coal trusts,
  - Tobacco trust,
  - Resource indemnity, and others

Whole area of 3 color box are the liabilities: discounted cost of future pension benefits



Slide Number 5

$16 billion in discounted benefits owed with about 70% funded with assets



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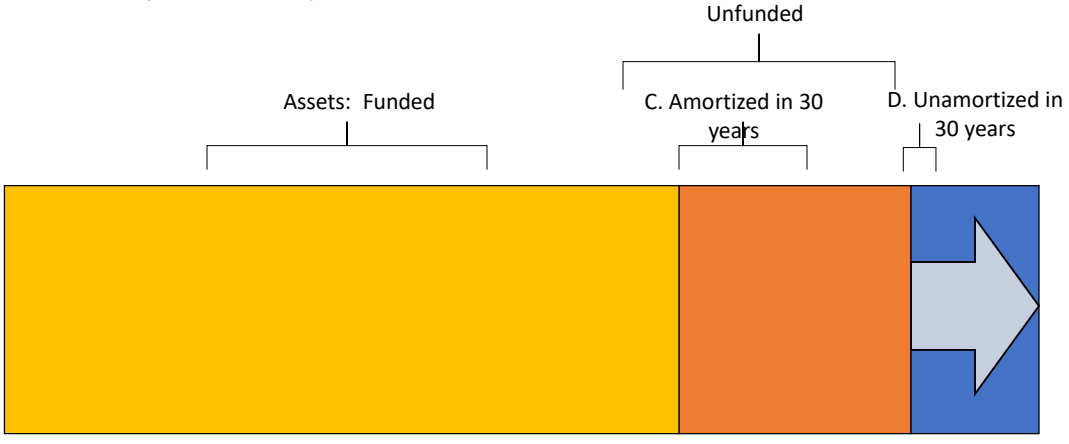
What is the impact to the state if the assumptions are wrong?

Risk Assessment: what do different assumptions yield



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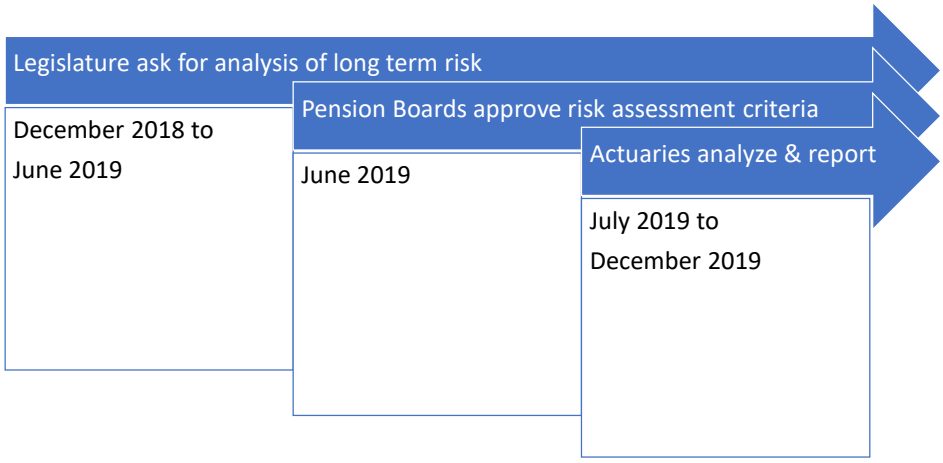
Risk Assessment: New Actuary Standard

- Actuarial Standards Boards issued Actuarial Standard of Practice 51(ASOP 51) entitled "Assessment and Disclosure of Risk Associated with Measuring Pension Obligations and Determining Pension Plan Contributions"
- Requires actuaries to better educate interested parties about risks facing their plans
- Educate interested parties on the potential for future plans' health to differ from expected results. Identify realistic risks to the system such as investment risks, contribution risks, longevity, etc
- If returns on investment are lower than the assumed rate, what increase in contributions would be required to still fully amortize?
- Also provides a way to incorporate states overall economic conditions, tax collections, and history of making required contributions to inform policy

Stress Testing Recommendations

1. **Baseline Projections:** These are already provided in the actuarial valuations and include information such as assets, unfunded liabilities, employee/employer contributions, funded ratio, amortization period, etc.
2. **Low Returns Scenario:** New projections of the items in (1) and the additional ARC (annual required contribution) if the investment returns are two percentage points below the assumed rate or if returns are fixed at 5%.
3. **Recession, Followed by Slow Growth:** Projections of the items in (1) and the additional ARC if there is a significant loss of assets (one-year loss to assets of 20 percentage points), followed by a period of where investment returns are two percentage points below plan assumptions.
4. **Simulation Analysis:** Projections of the items in (1) and the additional ARC based on an analysis assuming expected returns at both the 25^{th} and 75^{th} percentile as determined by the Board of Investments.
5. **Sensitivity Analysis:** Pension liabilities and service cost for each tier, for the most recent year available, calculated at both the assume rate of return and using a discount rate based on the state's average long-term borrowing cost.
6. **Past 20 Years' Experience Simulation:** Use the last 20 years' pension funds return on investments to simulate the next 20 years. Calculate the projections from item (1) at the end of the 20 years.

Legislative Information Option



Details of Accounting